

THE TERMINATION OF THE BUCARAMANGA FAULT IN THE CORDILLERA ORIENTAL, COLOMBIA

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The Bucaramanga Fault is a large Late Tertiary strike-slip fault oriented N15W which ends in the Cordillera Oriental of Colombia. It is believed to have about 100 km of left-lateral displacement. Based on detailed mapping of its termination, regional structural cross-sections, and gravity modeling of the area, I present a model for the geometry of the fault termination. Two reverse faults oriented N30E, the Soapaga and Boyacá faults, absorb about 40 km of strike-slip displacement on a 12 km deep detachment. These faults probably originated as Jurassic normal faults which were reactivated late in the Andean Orogeny. The Soapaga Fault cross-cuts and deforms the main strand of the Bucaramanga Fault probably as a result of motion on a younger strand of the strike-slip system, the Chicamocha Fault. The Bucaramanga Fault may have developed as an escape structure in response to accelerated compression and accretion of the Chocó Block and Panamá Arc against the western margin of Colombia during Late Miocene time.

Finally, the occurrence of orogen-parallel movement at some stage of a continental collision is a very common event. Different evolutions may lead to this situation depending on the angle of convergence between the continents, and the structure and the geometry of the continents margin. Satisfactory geodynamic models require the integration of kinematic data for each stage of the tectonothermal evolution into a self-consistent mechanical system. Special attention should be devoted: (1) to kinematic data giving clues on the process that led to the incorporation of mantle rocks to the orogenic assemblage, since they usually reflect the lithosphere behavior for at least a part of the orogen; and (2) to the seismic anisotropy